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US Spent Fuel Team

[redacted]

CHRON

To: Cherie Fitzgerald, US DOE NN-42
From: Ken Ames, DOE Onsite Monitor
Date: Tuesday, January 9, 1996 (3p.)

Last night the weather turned considerably colder, down to about 5°F, but we are coping. The Chief Engineer has agreed to supply us with locally-made electric heaters like the one in his office. With the assistance of DPRK personnel, George Pannell and Mike Miles routed the power cable from the load center in the spent fuel area to the distribution panel which they mounted in the office. Diesel fuel was provided this afternoon, the generators started, and now the microwave oven works. We thanked the Chief Engineer with hot popcorn!

We were informed that our shipment arrived in Pyongyang yesterday evening as planned and that delivery at the site should be tomorrow.

The Chief Engineer asked for my help in correlating the information in the sketch furnished to him on October 4 with the new boiler drawings. I agreed to help and have compiled a list of questions (appended) after perusing the new drawings. Many of these questions are very similar to those I asked in October. Perhaps the October questions have been answered, but I have not seen the answers. Let's try to do better this time! How hard can it be to answer questions like this about equipment that is almost completed? And how can a feedwater skid and heat exchanger skid be built without even having layout drawings? Randy, call twice a day if that's what it takes. I will be calling Dick Libby daily about 6 AM EST so he should be the relay person for getting answers to the site. Also, I believe Neal Bonadies of NAC is coming in on the 16th so he could be a courier for any paper or disk drawings you can send.

Today we reached tentative agreement on the disposition of the CenTec sludge vacuuming system. I strongly urged that we have a written record of meeting and the Chief Engineer agreed. My draft, which I believe will be accepted without significant changes, is appended.

Originally, the Chief Engineer wanted to remove the existing system to the floor at the east end of the pool before installing the new system, but I pointed out that that would require moving the fuel racks now there outdoors and staging the new system outdoors until the dismantlement was complete.

He insisted that we accept responsibility for removal and dismantlement of this equipment and I said that we could not do that unless we had freedom to set the sequence of events for safe and efficient use of space and manpower. I also said that we could not let the filter skid set a precedent for disposal of all equipment. He agreed.

As we develop a plan for removal and dismantlement, I believe it will be most efficient to leave the existing system (except for the pumps) in place while we install the new system, then vacuum the sludge and install the fuel racks and possibly the canning workstations as well. Then we'll have room at the east end of the pool to set aside an area for dismantlement of the filter skid. In the meantime, we can also plan the dismantlement and make sure we have the tools required to do the job. I believe we will want to use a hydraulic shear for cutting the skid piping into pieces small enough for the DPRK disposal casks. I believe we can follow this plan without any significant schedule impact because the actual dismantlement can be fill-in work done during setup of the canning equipment.

In order to plan the dismantling of the filter skid, it would be most [illegible] drawings used to build [illegible]

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CenTec sending components to allow us to repair the deionized water supply? We need to have that system operational.

Ken Yates and Bob Flournoy have done a great job of reorganizing and tidying up in the chem lab and have it looking very good. Yates will be going to Pyongyang later this week to meet with Ake Lovquist of the Swedish embassy regarding the protective power arrangements and will also try to meet with Mr. Watson of the bank regarding transfers of money. When Bob Flournoy receives the paperwork from CenTec authorizing him to withdraw money, he will go to Pyongyang and attempt to withdraw money to pay for diesel fuel.

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Draft Record of Meeting

January 9, 1996 Nyongbyon, DPRK

Regarding the sludge vacuuming equipment provided by CenTec for vacuuming the sludge in the Nyongbyon spent fuel storage pool, the U.S. and DPRK personnel at the site have agreed that:

1. The contaminated portions of the equipment will be rinsed with deionized water from the U.S.-supplied makeup water system while suspended over the spent fuel pool.

2. After rinsing, the contaminated equipment will air-dried. The drying may be assisted with heated air from the U.S.-supplied kerosene heaters.

3. When the equipment is dry, it will be placed on a specially-prepared, marked-off area inside the spent fuel building.

4. Using U.S.-supplied tools, U.S. personnel will dismantle the contaminated equipment by disassembly and/or cutting into small enough pieces for transport and burial by the DPRK. The large structural members in the base of the underwater filter skid will be decontaminated by U.S. personnel for salvage if practicable.

5. The U.S. will be responsible for planning and executing the process of removing the equipment from the spent fuel pool and dismantling it. The U.S. will plan the sequence of installing the NAC-supplied vacuuming system, installing the canning equipment and fuel racks, and the removal and dismantling of the CenTec sludge vacuuming system. The sequence will be planned for efficient use of space in the spent fuel building, availability of tools and personnel, and safe operation. Site personnel will perform operation of the overhead crane and any other site equipment and may assist in the other tasks as available.

6. By accepting responsibility for the removal and dismantlement of the CenTec sludge vacuuming equipment, the U.S. makes no commitment for the removal or dismantlement of any other equipment. It is envisioned by U.S. and DPRK personnel at the site that decisions regarding other equipment will be made on a case-by-case basis or by higher authorities such as Director Li and Mr. Norm Wulf.

Boiler questions

1. The stack diameter is 22 inch O.D. Does this mean that the stack should be 22 inch O.D. for butt welding or should it be 22 inch I.D. to sleeve over the boiler stack?

2. What are the load bearing requirements for the boiler and other equipment?

3. There is no drawing of the feedwater skid. When will we get one? Is it still intended to abut the right end of the boiler skid? Is it less than 8'-11" long and 9' wide? Can the boiler instrument panel extend above the feedwater skid? Does Clayton furnish the piping from the feedwater skid to the pump skid and boiler skid?

4. When will we get a drawing of the heat exchanger skid? Does the heat exchanger skid include the pump for circulating hot water?

5. The drawing of the heavy oil heater and the fuel pump and motor is a second-generation fax and the dimensions are unreadable. Also there is no key to the letters used to denote inlets and outlets. In addition, there is no layout to indicate the relative positions of the heater and the fuel pump skid.

6. When will we get a drawing of the air compressor skid?

7. What are the electrical requirements of the following equipment:
   - The boiler blower.
   - The air compressor.
   - The feedwater pump.
   - The heavy fuel oil pump.
   - The instrument panel and controls.
   - The hot water circulation pump on the heat exchanger skid.

8. Does the heavy fuel oil heater use steam heat with an electrical preheat? If there is no electrical preheat, how will the system be started in cold weather? If there is an electrical preheat, how much electrical power does it require?